WHEREFORE, the International Communications Association respectfully requests that the Commission adopt modifications to the initial LEC price cap plan consistent with ICA's comments above and in the attached papers.

Respectfully Submitted,
INTERNATIONAL COMMUNICATIONS ASSOCIATION

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FCC Docket Number 94-1 — LEC Price Cap Review
Baseline Issues 1 and 2

Attachment A
LEC Price Caps and the "NII:" Alternatives

The *LEC Price Cap Review Notice* includes baseline issues 1 and 2, concerning whether the price cap plan should be used to stimulate development of the National Infrastructure Initiative (NII) and/or to ensure greater universal service.[1] The FCC notes that "[r]evisions to the LEC price cap plan may help this infrastructure achieve its full potential" and asks "Whether, and if so how, the Commission should revise the price cap plan to support the development of a ubiquitous national information infrastructure."[2]

The International Communications Association (ICA) believes that it is highly inappropriate for the price cap plan to be converted into some sort of "supply-side" stimulus to the alleged economic development effects of the telecommunications infrastructure. Several facts support this view.

First, there is no evidence that telecommunications/information markets in the United States are having trouble raising capital from private sources. To the contrary, capital is widely available to support many start-up, developing and mature high technology companies providing communications services, software and equipment.[3]

Second, as ICA has previously shown, substantial amounts of the cash flow currently available to Regional Bell and other LECs through the state and federal regulatory processes is not now being returned to investment in regulated services.[4] ICA estimates that during seven years ending in 1992, each Bell Company realized about

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[1] Price Cap Performance Review for Local Exchange Carriers, *Notice of Proposed Rulemaking*, CC Docket No. 94-1 (FCC 94-10), February 16, 1994. (LEC Price Cap Review).

[2] Paragraph 36.

[3] The *1994 U.S. Industrial Outlook* notes that "high technology services have dominated growth in the services area since 1987" [p. 21] and reports robust growth in several communications and information related sectors.

[4] "Petition for A Declaratory Ruling and Related Waivers To Establish a New Regulatory Model for the Ameritech Region," Comments of the International Communications Association, June 11, 1993; Attachment B: Economics and Technology, Inc., "Patterns of Investment by the Regional Bell Holding Companies," May, 1993.

$90-million per month in cash flow that was not reinvested in the network. This observation does not necessarily suggest that the LECs were "under-investing" or "dis-investing" as such in their core networks. It *may* prove that overall LEC earnings have been excessive and that at least part of this excess cash would have benefited the US economy more if it had remained in possession of business and residential ratepayers. With respect to US telecommunications infrastructure development, the cash outflow *does* prove that there is no need whatsoever to build into the LEC price cap plan *any* additional infrastructure funding.

Third, as ICA has noted for years, increased competition will provide a more efficient mechanism for transferring advanced telecommunications and information technologies into the national economy. ICA's views on this subject are reflected in the *NTIA Infrastructure Report*.[5]

> In allowing an efficient level of public and private network investment, government policies should promote the ability of network operators to choose technologies that meet a wide range of user needs... Rather than mandating investment levels and technology choices, the FCC and the states should encourage further competitive market development.....Long distance competition, for example, has accelerated the deployment of fiber optic transmission equipment and digital facilities. Equipment competition has promoted the development of very sophisticated terminal equipment features, competing directly with network-based features such as Centrex. Competition has spawned a large array of private network equipment and multi-functional terminal devices for voice, data and video applications. The aggregate level of telecommunications investment has risen substantially with the growth of competition. Government policies to encourage further competition can stimulate, rather than replace, private sector initiatives to provide the appropriate level and mix of public and private network investments and technologies.

Therefore, ICA categorically disagrees with any suggestion that the LEC price cap plan should contain an explicit infrastructure element. Moreover, with respect to baseline issue number 2, ICA generally believes that universal service goals are being achieved at this time. As to the extension of universal service to new advanced services, ICA believes that neither this Commission nor any other government agency

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[5] US Department of Commerce, National Telecommunications and Information Administration, *Telecommunications in the Age of Information* [The NTIA Infrastructure Report], NTIA Special Publication 91-26, October 1991, pp. 139-140.

should try to anticipate the marketplace and consumer demand.

Notwithstanding ICA's basic position that the LEC plan should not be subverted in order to meet possible infrastructure goals, ICA also believes, as an alternative, that any such formulation should reflect strong, pro-competitive objectives. Any such program should be confined to limited, demand-side stimuli in areas where market forces can be shown to be inadequate.

Many ICA members are educational institutions that are deeply involved in the development of telecommunications and information programs, including, but not limited to, operational "distance learning" programs. Some experience developed through these efforts indicates where limited, demand-side stimuli could work effectively. To cite one example, the University of Nebraska (an ICA member) has received funding to enable it to extend education initiatives to selected schools. The problems encountered in these efforts included two important ones that could be carefully targeted. First, many public buildings, like school houses, lack even the most rudimentary building wiring. Existing telephone wiring may be confined to administrator's offices. Second, the teachers and pupils at a school may lack the training needed to utilize more advanced information technologies. The ability of telephone companies, cable television and other network providers to bring advanced facilities to the school-house door has relatively little value if the information cannot be transmitted within the building or the people who occupy it on a daily basis lack the full understanding of how to use the technologies effectively.

This example serves to illustrate ICA's view of the appropriate criteria for any infrastructure funding if the FCC determines that such an element ought to be considered within the LEC price cap plan:

(1) Non-network resources. "Infrastructure" funding should be limited to areas other than LEC network resources. LECs do not need more money to spend, and the FCC does not have the ability to identify network upgrades that are undertaken for strategic purposes benefiting the LEC. If the extension of video capability to a public school just happened to be routed through network facilities serving an area with potential demand for a LEC's video dial tone offering, for example, what part of the network resources should be allocated to the commercial endeavor? To pose this question is to suggest the intractable issues that would arise if LECs could spend infrastructure funding on their own network resources. If the development of modernized information resources in public institutions, like schools, libraries, youth or

senior centers requires ancillary investments in training, support, inside wiring and other areas, additional funding should be limited to these areas.

(2) Full competitive acquisition. Only projects subject to full competitive procurement should be eligible for funding. In other words, just because an LEC regulatory plan is the vehicle for funding, the LEC itself should not be the sole or even primary supplier, owner or beneficiary of the products created by the expenditure. Many providers other than carriers are capable of providing support for advanced information and telecommunications services and these providers should have equal access to any ratepayer supplied funds.

The example provided above illustrates how ancillary infrastructure support can be directed towards areas that are fully capable of competition. Building wiring services are widely available today in most areas from electrical and other contractors, computer vendors and equipment suppliers. Similarly, training in using computers, advanced communications devices, software and other information technologies is widely available in most parts of the country from entities ranging from small businesses to professional development firms, as well as colleges and universities. Any remedial infrastructure funding should be confined to such competitive markets. The existing competition should be leveraged in order to ensure that any government-directed infrastructure stimulus is utilized as efficiently as possible.

(3) Capped, pre-approved funding from interstate rates. The funding mechanism should always remain exogenous to the LEC price cap plan and subject to prior FCC approval, in keeping with ICA's other recommendations for limiting future exogenous adjustments. Any total funding from the rates of regulated LECs should be limited to $20-million per year for each Bell or other telephone holding company until the effectiveness of this type of test has been proved.

(4) Shared funding. The regulator of the LEC's intrastate services should approve 50% of the total funding for these investments. Alternatively, the FCC should consider a "25% by 4" funding mechanism where equal shares of the added cost are borne by (1) LEC shareholders, (2) a public grant program such as the NTIA's funding of NII projects, (3) state ratepayers, and (4) interstate ratepayers — through a "Z" adjustment. The interstate funding mechanism should be subject to the above conditions regardless of the funding mechanism.

(5) Publicly-available results. Knowledge and experiences gained through projects funded in the manner described above should be in the public domain and available for review by any public or private sector entity. This provision is critical to the widespread dissemination of information gained through what will be involuntary contributions from telephone ratepayers.

Conclusion

Local telephone networks are rapidly approaching the point where most traditional basic telephone services can be provided more and more economically. Most of the technology needed for these "basic" services already is planned for the network. Most of these technologies can be financed within the LECs' existing cash flow — without added resort to capital markets. The demand for these existing basic services is highly mature; it is not likely that new features can stimulate public usage of these services significantly. Some of the more advanced technologies — fiber to the curb, coaxial video connections and broadband switches, for example — may require vast new capital commitments, but the incremental services that can be provided only by deploying these technologies are subject to highly uncertain future demand, and competition from multiple sources. Telephone companies may realize more attractive returns through investments in adjacent but non-regulated businesses or in overseas ventures. Thus, capital ostensibly raised to pay for advanced local telephone technologies may be diverted to other sources.

Therefore, a government role, if, in fact, one is to be developed, should be to enhance information and communications capabilities used by businesses and residences. It should do so in most cost-effective manner, most closely emulating the operations of competitive markets, because competitive checks would assure the most efficient flow of capital to advanced local telephone technologies versus other investments (e.g., in foreign countries). Government policies should avoid allowing LECs to leverage relatively low-risk public utility capital into riskier, futuristic high technology ventures. Using capital generated internally from monopoly local telephone services to fund non-regulated and foreign ventures would, in fact, cause distortions in two markets, simultaneously: It would distort the ability of the normal risk capital markets to provide a check upon the soundness of LEC investments in new business and interfere with lowering prices in the market for basic telephone services.

FCC Docket Number 94-1 — LEC Price Cap Review
Baseline Issues 8a and 8b

Attachment B
Price Linking:
Extending Incentive Regulation to New Services Filings

Summary

The Commission requests comments on changes in its current procedures governing "new services" filings by price cap LECs. The Notice cites claims by some LECs that the current cost review procedures for new services unduly delay the introduction of new services. This regulatory delay, however, is but one of several problems inherent in the current treatment of "new services." The Commission's rules actually reward price discrimination by LECs. In contrast to the competitive market mechanisms that price cap regulation is supposed to emulate, LEC filings of reduced-price new services offerings in anticipation of competition eventually can be offset by price increases in other services, when the new rates are incorporated into the appropriate price cap basket.

The FCC lacks a specific test for how the economic costs of "new services" should be calculated. A consistent definition of the correct economic costs could be formulated by the Commission and applied uniformly to future new services filings either by a rule specifying the elements of a cost test, such as Total Service Long-Run Incremental Costs (TSLRIC) or by developing a "common law" of what is acceptable through the course of individual tariff reviews. Either approach, however, will involve significant time, effort and costs. Most existing rates fail to offer a suitable benchmark for a LEC's new service cost calculations, because these rates were based upon fully-distributed costs when the were first incorporated into price caps, and have since been subject to pricing adjustments that are not a function, as such, of service-specific cost changes.

The time it will take to develop specific new services cost tests could be counter-productive to providing better incentives to LECs, as well as creating further uncertainty in the marketplace. Therefore, the existing new services rules should be changed, but not in the way proposed in the Notice. The Commission's proposal would simply introduce a new extraneous form of regulatory lag into the review of new services rates. It would not increase certainty in the market place, and could invite further gaming by individual LECs.

The Commission should require LECs to immediately incorporate new services prices and demand into a surrogate new services basket paralleling the each actual price cap basket. Changes in the surrogate price index should be linked to and affect the primary price index, when the surrogate index dropped more than two percentage points below the current Actual Price Index. The elements of this approach would:

- Require each LEC to calculate a second "API" for each basket, reflecting the embedded services in the basket and all new services based upon three years forecasted demand.

- Where the difference calculated by subtracting the actual API and the surrogate API exceeded two percentage points, reduce the LEC's PCI for this basket by the incremental decrease in the API-API_{ns} differential.

- Require that the surrogate API_{ns} calculation be updated every quarter to account for changes in actual versus forecasted demand. This is necessary to mitigate possible LEC incentives to understate demand.

At the same time, the increased discipline that this type of price linking would impose on LECs should allow increased flexibility in other areas. A persistent claim of most LECs is that the existing requirement for individual waivers of specific Part 69 rules is unduly cumbersome and time consuming. LECs have proposed to completely replace most of Part 69 partly to avoid the waiver requirements. The price linking proposal could eliminate the need for the LEC to seek waivers of particular Part 69 rate structure rules for services included in the API_{ns} approach. Services tariffed under this approach could be subject to a separate section in Part 69 that would not affect the other rules. Then, consideration of changes in the existing Part 69 rules could proceed at a logical and appropriate pace, keyed to industry and marketplace developments. This approach will accelerate the introduction of appropriate new services, but also will subject the LECs to considerations of their effects on existing revenues and earnings more like firms in competitive markets.

The general form of the PCI would remain:

$$PCI_t = PCI_{t-1} [1+w(GNPPI - X) + \Delta Z/R]$$

where these terms have the meaning specified in the Commission's rules. But the PCI would be adjusted to incorporate the price-reducing effects of new services rate reductions:

$$PCI_{ns} = PCI_{t-1} [1+w(GNPPI - X) + \Delta Z/R] - N,$$

where N is a positive number equal to $API_t - API_t^{ns}$, the surrogate index, where

$$API_{ns} = API_{t-1} [\sum_i v_i (P_t/P_{t-1})_i + \sum_{ni} v_{ni} (P_n/P_r)_{ni}]$$

API_{ns} is a calculation identical to the current API calculation for pre-existing rate elements, but incorporates the new service rate elements, P_n, the rate elements in

year t for the cross-elastic services displaced by the new services, P_r, and v_{ni} is the recalculated revenue weight based upon the three-year forecast demand for the new services and the cross-elastic demand for the services being displaced (a negative number) over the same planning period.

Discussion

In the LEC Price Cap Review, the Commission seeks comment on whether the current rules for new services impose unnecessary regulatory impediments to introduction of new services.[1] The Commission discusses and gives some weight to LEC complaints that the current rules are burdensome and delay the offering of new services.[2]

However, the core issues involving the treatment of new services are, in fact, far more complex, because both the current and proposed treatment of new services showings conflict significantly with the larger goals of incentive regulation. The Notice suggests the extent of this problem, noting that "current rules rely largely on regulatory review to detect and correct new service problems. The rules seek to detect unreasonably high or low rates, *but fail to provide incentives for LECs to set new service rates at reasonable levels.*"[3] This is, indeed, the core issue. However, the Commission's proposed alternative approach, noted in paragraph 83, would simply defer cost review to a later point in time, when the rates for new services are incorporated into the appropriate price cap category. This approach would not cure the lack of LEC incentives to set initial rates for new services at reasonable levels. In fact, by deferring cost review to a later point in time, the suggested alternative might well increase LEC incentives to game the new services process.

Importance of new LEC services

The new services issue is very important at this time for several reasons. As the *Notice* suggests, in the future the volume of new services submissions likely will rise

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[1] Price Cap Performance Review for Local Exchange Carriers, *Notice of Proposed Rulemaking*, CC Docket No. 94-1 (FCC 94-10), February 16, 1994 (LEC Price Cap Review) at Paragraph 73, and Baseline issue 8a.

[2] Paragraphs 77-79.

[3] Paragraph 79, emphasis added. Baseline issue 8b requests comment on modifying "the LEC price cap new services procedures and cost support rules to ensure that these rules advance our goals of encouraging innovation and setting reasonable rates."

dramatically as LECs enter new markets.[4] The Commission will be confronted with an increasing volume of these deferred cost of service showings. These filings might allow LECs and the Commission to have better data about realized demand levels, as the Commission wishes, but they may only result in a confusing array of data as LECs change rates and terms for new services previously filed. In particular, if LECs want to experiment with price level and structures for the new services (precisely in order to better gauge demand), the concept of taking up a cost showing one to two years after the service was introduced would simply present a "moving target" that would not make the deferred cost showing any easier to evaluate.

Additionally, notwithstanding LEC entry into new markets the new services issues will grow in importance as LECs attempt to offer services that respond to or attempt to forestall competition in the markets they already serve. The Commission has recognized that new services include "many ...re-priced versions of existing services."[5] Because LECs have market power, i.e., the ability to control output and/or prices, in most of their existing services, the probability that they will use introduction of "new services" as a frequent method of competitive response suggests that merely re-ordering some of the rules concerning LEC cost showings will not be adequate.[6]

Moreover, holding new services filings out of price cap baskets for a time period actually creates an implied incentive to price discriminate.[7] Some economic theory holds that unreasonably discriminatory or predatory pricing is not attractive to a firm unless the firm knows that it can adjust prices at a later point in time in order to recoup the losses it would sustain on account of that pricing behavior. The prospects for making up losses are dim in businesses subject to competition in most market segments. Recoupment is available to price cap LECs, however. Under the current rule, the eventual incorporation of a new service filing likely will reduce the Actual Price Index for the basket in which it is incorporated, assuming that the new service responds to or anticipates competition by reducing prices in selected market

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[4] Paragraph 80.

[5] LEC Price Cap Order, paragraph 314 (1990).

[6] Likewise, it is not clear that mere "universal availability" of some or all new services, as posed under Baseline issue 8c, will adequately address the distortions in incentive regulation flowing from the new services rules. There may be technical, geographic, cost, demand or other restrictions on universal availability (e.g., a fiber optics based new service can only be available where those facilities are in place). In any event, the nature of a dominant LECs' competitively-responsive "new services" tariff submissions will seek to target selective market segments.

[7] We were among the first commenters to suggest that holding a new service out of price caps for some time would improve LEC incentives. Upon further analysis, however, this position was wrong.

segments.

This effect is magnified if, in its enthusiasm to meet competition, the LEC has understated costs for the competitive service, used a lower than average overhead loading factor (or no overhead loading at all). If the API declines relative to the Price Cap Index at the time the new service is incorporated into a price cap basket, the LEC (which may have underpriced the service in the first place) is rewarded by increased pricing flexibility for its pre-existing services in the basket or category into which the new service is incorporated. The new API is lower than the old API by the extent of demand for new, lower-priced service; there is thus an additional margin for upward pricing movement in the services that subject to a competitive threat. In effect, these current features reward pricing efforts to deflect competition by targeting markets for discounted pricing and then later using the effects of the reduced pricing to increase the relative upward pricing range for services in the same basket or category that are not subject to competition.

Rethinking the incentive properties of the current approach

The mechanics of this problem and the inappropriate incentives it fosters were not identified in the Commission's initial development of price caps for LECs, or in the ensuing efforts to define what sort of cost "test" ought to apply to new LEC services.[8] During the original consideration of LEC price caps the issue received relatively little comment, as the Commission noted in paragraph 313 of the 1990 LEC Price Cap Order. Most of the consideration of the issue occurred in the context of establishing a price cap plan for AT&T, and the AT&T formulation was simply adopted for the LECs, and most of that discussion revolved around the correct definitions of "new" and "restructured" services.

Neither the Commission nor commenting parties noted the significant difference between the AT&T and LEC situations, i.e., that AT&T already faced significant competition in most or all of the services subject to price caps. Where LECs retain core market power, however, the definitional distinctions between "new" and "restructured" services are trivial issues compared to the problems that are actually presented: Encouragement of potentially unreasonable price discrimination, discouragement of LECs' overall incentives to actually reduce their costs, and rewarding exploitation of the "information rent" possessed by LECs as private firms.

There is no single specification for what constitutes the type of cost floor by which the initial validity of new services rate filings are to be evaluated. Different methods

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[8] Several Commission orders have considered and reconsidered the scope of such cost tests, as discussed in paragraphs 75-76 and footnotes 107 to 118 in the *Notice*.

may be used by LECs to estimate the incremental costs. The Commission has not developed a uniform "economic cost" rule for new services tariff filings, and LEC tariff submissions still utilize several different *ad hoc* approaches to pricing and cost calculation. Incremental cost values can differ greatly depending upon the length of time used to establish which are variable or avoidable; regulatory review of LECs' different methodologies is inherently time consuming. After an investigation that lasted approximately two years, the Commission did require certain LECs to adjust their ONA tariff loadings.[9] The Commission however did not adopt, nor has it proposed to adopt a single uniform rule for developing costs or cost loading factors. In most situations under the current rules, the Commission has not been able to develop a standardized "tariff review plan" for cost review.[10]

The Commission might develop a uniform rule regarding cost calculations in order to increase the efficacy of the new service tariff review process, or it may continue to create a sort of "common law" of what is acceptable through the course of individual tariff reviews. Faced with similar policy issues, but perhaps with greater regulatory resources relative to the number of LECs they regulate, several state commissions have adopted the concept of the Total Service Long Run Incremental Cost (TSLRIC). For example, the Michigan PSC developed a good definition of the elements of TSLRIC:[11]

> Cost causation is a key concept in incremental costing. Any function necessary to produce a service must have an associated cost. Long run implies a period long enough that all costs are avoidable. The increment [of demand] studied should be the entire quantity of the service provided, not some small increase in demand. Costs should be forward looking. The technology used in a long run incremental cost study should be the least-cost, most efficient technology that is currently available for purchase. This assumes the existing location of structural facilities, but allows for replacement with the most efficient, least cost technology. Cost studies, at a minimum,

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[9] Open Network Architecture Tariffs of Bell Operating Companies, *Order*, CC Docket 92-91 (FCC 93-532), December 15, 1993, at paragraphs 44-50 and fns. 92,93; disallowing excessive estimates of direct costs and overhead loading factors.

[10] Where it did so, in the ONA tariff investigation, use of the standardized data reporting proved to be much more difficult because some of the underlying cost input data was generated by proprietary cost models.

[11] Michigan Public Service Commission, "1994 Report to the Governor and the Legislature as Required by 1991 Public Act 179: The Impact of Public Act 179 on Telecommunications Service Providers and Customers," October 1993, p. 48. The items listed in that report have been rearranged in our quotation for clarity; the principles are discussed more extensively on pp. 48-49 of the Michigan Report.

> should be performed for the total output of specific services and preferably at the level of basic network functions from which services are derived. (Costs may be determined at the service level or the network function level. Each level has advantages and disadvantages.) The same long run incremental cost methodology should apply to all services, new and existing, regulated and non-regulated, competitive and non-competitive. Common overhead costs are not part of a long run incremental cost study. Recovery of those costs is a pricing issue.

This Commission, however, has not yet specified such requirements. Thus, it makes sense to extend the price cap mechanism through price linking while cost tests for interstate new services filings are developing.

Demand/cross elastic effects

In emphasizing some sort of cost "floor" or "ceiling" for new services, the current approach does not accord sufficient weight to demand effects, particularly the cross-elastic effects of a new service on the LECs' existing offerings. While some new services may genuinely stimulate new telecommunications applications and thus create new demand, it is reasonable to assume that many LEC new services filings will be made in anticipation of, or response to, competitive entry. These "responsive" filings will have significant cross-elastic effects on the carrier's existing services. Incremental cost tests and the analogous "net revenue test" carry incentives for cross elastic effects to be, if anything, understated. If demand is stated conservatively by the LEC, its net revenue projection will be improved, because the amount of foregone revenues from existing services that must be accounted for is minimized. Similarly, conservative estimates of demand for the new service may (depending on the cost method) limit the costs that must be treated as variable, and thus improve the apparent revenue-to-cost ratio for the new service.

On the other hand, as the *Notice* indicates, the demand projections underlying new services filings are inherently uncertain, even if the LEC does not include estimates of alternative market losses in its computations.[12] Thus, it will be difficult under any regulatory system to determine whether the demand projections for a new service are being strategically under-estimated by the carrier, or are simply difficult to forecast. More emphasis on tracking the demand for new services and the cross-elastic effects

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[12] LEC demand estimates may include estimates of market losses to competition that would occur if the new service were not introduced. *See*, e.g., NYNEX Tariff FCC No. 1, Transmittal 127 (October 22, 1992) Description and Justification. Of course, once the new service *has been introduced* there is no way for the Commission to verify the accuracy of this type of net revenue test, because the baseline condition will have changed.

on existing services is the only effective solution to this dilemma.

In paragraph 321 of the LEC Price Cap Order, the Commission specified that carriers must file quarterly reports comparing actual operating results with projections beginning six months after initiation of the new service. Its not clear whether these reports are being submitted, however. The same section imposed requirements for a formal net revenue test that have subsequently been changed in the Second Reconsideration Order.

Purposes of incentive regulation

Both the current and proposed treatments of new services filings conflict with the conceptual purposes of incentive regulation. Price cap regulation has two fundamental purposes: As a form of *regulation* it must adequately control the undue exercise of monopoly power by the LECs.[13] As a form of *incentive regulation* price caps must satisfy the properties of good incentive schemes. The incentives that should be inherent in price cap regulation of LECs include reducing their costs of providing all types of services to the public and reducing their ability to use the regulatory process itself for strategic advantage.

Since the commencement of the LEC price cap plan there has been significant formal economic analysis of incentive systems.[14] Of special utility are considerations about how the regulatory system deals with the inherent condition of "asymmetrical information," i.e., the fact that a regulated company (or government contractor) has information about its productive processes that is not available to the government

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[13] As the Commission said in adopting LEC Price Caps, "[O]ur objective...is to harness the profit-making incentives common to all businesses to produce a set of outcomes that advance the public interest goals of just, reasonable and non-discriminatory rates, as well as a communications system that offers innovative, high quality services. ... [I]n their interstate access activities, the LECs continue to operate with substantial monopoly power and therefore with little incentive to become more productive. Applying incentive regulation to LECs is arguably a more significant reform in terms of its ability to generate consumer benefits than applying incentive regulation to a carrier or an industry that faces substantial competition." LEC Price Cap Order, paras. 2, 33. footnote omitted.

[14] Much of this work is reflected in *A Theory of Incentives in Procurement and Regulation*, by Jean-Jacques Laffont and Jean Tirole (MIT Press 1993). Although much of the Laffont-Tirole work is too mathematically complex to be incorporated practically or immediately into an actual incentive plan, the theory is both rigorous and useful in normative evaluation of the power of various incentive schemes.

agency.[15] The combination of price cap regulation for most LEC monopoly services and *ad hoc* cost of service regulation of new services that are, in most instances, motivated by competitive responses, creates the ability for the LEC to exploit its information rent about costs and demand in ways that are antithetical to intended incentives.

It appears to be generally accepted theory that price caps with the earnings sharing mechanism provide somewhat weaker incentives than "pure" price caps; earnings sharing is required in order to use the LECs' earned rates of return as a check upon the performance of the price cap system and the LEC itself.[16] Offsetting the earnings sharing effects, however, price caps in the face of emerging competition for at least some LEC services is stronger than price caps/earning sharing in a fixed monopoly system, because competition itself should provide an incentive towards improved efficiency. However, the main stimulus of competition in this respect is for the LEC to lower its costs in order to price its services more competitively. In the current circumstances, where the price cap system is coupled with rules allowing the LEC to engage in competitive, or pre-competitive, targeted new services tariffs supported by *ad hoc*, incompletely-defined cost of service data, the primary stimulus of competitive entry for reducing aggregate costs is lost.

Moreover, the use of *ad hoc* or incomplete costing rules to evaluate individual new services tariffs also allows the LEC to maximize its extraction of the information rent: Because the LEC understands costs and demands for new services better than the regulator can ever hope to, the new services cost tests — as presently structured — allow the LEC to focus its superior knowledge, its asymmetrical information, primarily upon those market segments that are most likely to attract competitive entry. Thus, current practices with respect to new services cost showings result in two cumulative failures of an appropriate incentive scheme:

(1) A failure of overall incentives to cut costs, which are already weakened to some degree by earnings sharing arrangements are severely eroded by the LEC's ability to focus price discrimination in competitive market segments and to recoup the effects of price discrimination when new services are later incorporated into a

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[15] Laffont- Tirole refer to the degree of the regulated firm's ability to exploit its special information as an "information rent". They note "An interesting issue with the theory of regulation is whether its recommendations are simple. If by chance they are, their implementation is simple....In contrast, an informationally demanding rule requires the regulator's knowledge of some demand and cost data and therefore leaves discretion to the regulator having these data."

[16] The Commission recognized that earnings sharing is need in order to satisfy this important balancing act. *See*, e.g., LEC Price Cap Order, paragraphs 121 and 155.

basket.

(2) A failure to control the carriers' information rent; the LEC is able to use its superior information to enlarge the rent extracted by means of new services cost showings.

The Commission's basic proposal to allow more initially-streamlined new services submissions would totally fail to remedy these problems, and would make them worse. Therefore, other procedures with respect to new services should be specified in order to increase the efficiency incentives of price caps while increasing the LECs' incentives to file initially reasonable rates for such services — the core problem identified in the *Notice*.

The price link proposal

This approach involves using the new services rates and prospective demand to effect a potential change in the prices of existing services. This effect creates a consideration for the LEC more in keeping with the incentives of a firm subject to pervasive competition in all its market segments. If such a firm drops its prices too low in one segment, its earnings will be permanently affected. If such a firm is operating in a decreasing cost environment, with a rapidly-changing technology structure, cost savings and technological enhancements likely will benefit all of its product lines. Because, by definition, all of the firm's product lines are subject to competition (unlike the LECs), the changes in the firm's cost structure will be shared among its multiple product lines over time.

Current price cap mechanisms like the productivity offset and the service band indexes (SBIs) do not fully mimic these competitive market effects, primarily because they are rooted in historical, fully-distributed cost, public utility revenue requirement concepts. The productivity offset inevitably must be somewhat backward-looking and thus reflect the incentives of traditional public utility regulation to a degree. Similarly, the revenue weights attributed to existing services in an SBI category are based upon fully-distributed costs or, if the LEC has used the upward pricing flexibility of price caps to place a premium on prices for non-competitive services, a value that exceeds FDC. Therefore, the price cap mechanism itself should be extended to new services.

The Commission should require LECs to immediately incorporate new services prices and demand into a surrogate new services basket paralleling the each actual price cap basket. Upon filing a new service, the LEC would update the surrogate basket parallel to the basket then applicable to existing services, using the rate and demand information that it would have submitted as part of a new services cost showing.

Each LEC submits a second "API" for each basket, reflecting the embedded services in the basket and all new services based upon three years forecasted demand. Changes in the surrogate price index should be linked to and affect the primary price index, when the surrogate index dropped more than two percentage points below the current Actual Price Index. If and when the difference calculated by subtracting the actual API and the surrogate API exceeded two percentage points, the PCI for this basket would be reduced by the incremental decrease in the API-"API_{ns}" differential.

It is extremely important that demands for new services and cross elastic effects by monitored under this approach, but doing so would be fully consistent with the use of base period demand data to calculate the actual APIs. LECs would not be required to collect information that they do not now collect, but their demand estimates would have an immediate *potential* effect on their total price levels.[17] The surrogate "API_{ns}" calculation be updated every quarter to account for changes in actual versus forecasted demand. This is necessary to mitigate possible LEC incentives to understate demand, or to otherwise leverage their information rent.

The result of this process is that the LEC is required to take specific account of the cross-elastic effects of its new services submissions -- not just initial estimates of the cross elastic impacts to be submitted in a D&J but continued tracking of these effects. This behavior more closely mimics that of competitive firms than the regulatory lag (between tariffing and incorporation into a price cap basket) in the current procedure or the even greater lag (between tariffing and when cost review might begin) under the proposal in the *Notice*. This process could accelerate the introduction of appropriate new services, but would also subject the LECs to considerations of their effects on existing revenues and earnings, more like firms in competitive markets.

If greater market discipline can be injected into new services submissions it should be possible to eliminate the need for the LEC to seek waivers of particular Part 69 rate structure rules for services included in the API_{ns} price-linking mechanism. The current Part 69 waiver process is, of course, viewed as highly problematical by the LECs. Services tariffed under this approach could be subject to a separate section in Part 69 that would not affect the other rules. Then, consideration of changes in the existing Part 69 rules could proceed at a logical and appropriate pace, keyed to industry and marketplace developments. This approach will accelerate the introduction of appropriate new services.

In the price-linking approach, the general form of the PCI would remain:

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[17] Of course, if the cumulative effects of new services filings and quarterly demand updates for new services did not breach the maximum differential allowed by the price linking proposal, the PCI_t would not be reduced at the end of the year (as the new PCI_{t-1}).

$$PCI_t = PCI_{t-1} [1+w(GNPPI - X) + \Delta Z/R]$$

where these terms have the meaning specified in the Commission's rules. But the PCI would be adjusted to incorporate the price-reducing effects of new services rate reductions:

$$PCI_{ns} = PCI_{t-1} [1+w(GNPPI - X) + \Delta Z/R] - N,$$

where N is a positive number equal to $API_t - API_t^{ns}$ (the surrogate index). that is greater than two percentage points, where

$$API_{ns} = API_{t-1} [\sum_i \nu_i (P_t/P_{t-1})_i + \sum_{ni} \nu_{ni} (P_n/P_r)_{ni}]$$

API_{ns} is a calculation identical to the current API calculation for pre-existing rate elements. That is the surrogate index is maintained using all of the same prices and revenue weights applicable to the direct API calculation. The new services features involve the revenue weights and effective price reduction associated with the new service, less the revenue weights associated with cross elastic effects (a negative number). The formula incorporates the new service rate elements, P_n, and the rate elements in year t for the cross-elastic services displaced by the new services, P_r. Then, ν_{ni} is the recalculated revenue weight based upon the three-year forecast demand for the new services or the cross-elastic demand for the services being displaced over the same planning period; as noted the value for this displaced demand is always a negative number.

Application of the surrogate API results in a larger drop in the index (thus increasing the likelihood that the surrogate API will drop more than two points below the actual API) the greater are the cross-elastic effects. If a new LEC service is truly innovation and stimulates substantial new demand with low cross elastic effects on existing services, the decrease in the surrogate API will be very low or zero. If, on the other hand, the new LEC service displaces existing demand, because the new service is primarily designed to protect the LEC's existing market share, the surrogate API will decrease in proportion to the migration of demand.

Therefore, price linking places more emphasis on the demand for LEC services (and less upon the LECs' estimates of costs). Tracking demand is quite important. Price linking requires the continuation of quarterly reporting requirements because the system does not itself contain strong enough checks on a LEC's incentives.[18] to

[18] If the LEC's competitively-responsive or anticipatory "new services" were effectively available for resale, and at least as "generally available" as technologically feasible, the LEC should want to more accurately estimate its demand projections. However, it will be difficult for

understate demand for the new service (and thus reduce its risk that the primary basket of service prices would be ratcheted down by the cumulative effect of multiple new services filings. The periodic quarterly filings of the surrogate basket that LECs will be required to make in order to track actual demand is consistent with current Commission requirements.[19]

Demand forecast for the new services should cover the first 36 months of the service. Three years is the time period currently prescribed for LECs to allocate major investments shared by regulated and non-regulated services based upon forecast utilization, in 47 CFR 61.904(b)(4). Here, although non-regulated services are not at issue, similar considerations apply. The three-year period was selected by the Commission to try to replicate the decisional time frame that is confronted by a service provider in a competitive market.[20] In the surrogate basket, demand data for all pre-existing services, those already in the primary price cap basket would remain at the levels used in for current tariff review purposes.

Under this formulation, the effects of the initial new services submission on the *potential* price index for monopoly services would begin immediately and cumulate with each additional filing. Cost information, as required for a Commission investigation, would be considered separately, perhaps as suggested in the *Notice*, or upon the filing of a complaint.

The potential change in prices for existing capped services would occur if the cumulative effect of new services were to lower the price index for the surrogate basket by more than two percentage points or more during any annual period, in which case the cap index for the actual basket or category would have to be reduced for the incremental reduction exceeding two percentage points.

This approach requires only the same type of price cap rate and demand charts,

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the Commission to distinguish innovative and original rate structures and pricing plans for new services from rate structures designed to limit demand, foreclose resale or otherwise render a new offering less than "generally available."

[19] The Commission recently clarified that price cap review tables are to be updated for submissions in between annual reviews. Commission Requirements for Cost Support Material to be Filed with 1994 Annual Access Tariffs and for Other Cost Support Material, DA 94-165, February 18, 1994, at paragraph 4 (include TRP charts in price cap filings made between annual submissions that affect rates, including restructures).

[20] In fact, three years is a relatively short period. Firms in competitive markets, including entrants in LEC markets, may expect their services to be cash flow positive in only four or five years and to earn a compensatory return only over an even longer time.